Speech: Arctic Energy Summit
Egan Center, 9:30 a.m. Monday, Oct. 15, 2007
U.S. Sen. Lisa Murkowski

'North to the Future' a global energy theme for 21st Century

- Good morning. It is a great honor to be here helping kick off this summit on the energy potential of the Arctic and how we can better go about producing that energy.

- First, let me join in welcoming you to Alaska and to the state's largest city, Anchorage. It is truly appropriate that this energy summit, that is set to explore both the potential for Arctic energy and the means of producing it safely, using the best technology, with the most environmental care, is being held here in Anchorage.

- Anchorage is the northern air crossroads of the world, equidistant between Europe, Asia and the continental United States. In the last Century Anchorage grew to be the jumping off point for travel and commerce into America's Arctic – the arrival point for so many pipeline and oil field workers during development of Alaska's Prudhoe Bay oil field – the first and still largest currently operating most-northern oil field. It is fitting that it serves as the jumping off point for

this summit to examine future energy developments in the Arctic.

- As this conference likely will highlight, the production of Alaska's Arctic Slope over the past thirty years may prove to be only the starting point – the preamble -- for energy production from the Arctic in the years ahead. In this second International Polar Year, it is worthwhile to think back on how far the Arctic has come in global perception in the fifty years since the first IPY, and more importantly, what may happen in the Arctic during the next fifty years.

- This is not meant to be a global warming pun, but discussions about the Arctic's future are certainly a hot topic right now. Just three weeks ago Time Magazine devoted a cover story to the potential for Arctic energy development and the issue of which nations may hold the rights to the energy riches lying under the seafloor of the Arctic ice pack. Many other stories recently also have focused on oil and natural gas potential in the Arctic.

- Many of those stories are based on a misreading of a 2000 assessment by the U.S. Geological Survey, which has been

popularly characterized as estimating that the Arctic may hold 25% of the world's undiscovered oil and gas. The report actually said that the seven basins then studied that crossed the Arctic Circle may hold a quarter of the world's remaining hydrocarbons, but carefully pointed out that not all of that energy likely lies solely under the Arctic.

- But the study actually assessed relatively few Arctic basins, prompting the U.S.G.S. earlier this year to begin a systematic new review of the region – an effort now expected not to be finished until late next year. So far the survey has released revised hydrocarbon estimates for northern Alaska and just recently for the East Greenland Rift Basins.

- While I don't want to overwhelm you with numbers, the Arctic Alaska petroleum province, both onshore and off, is now forecast to have a 50 percent chance of containing 50.7 billion barrels of recoverable oil and 227.3 trillion cubic feet of natural gas -- more than twice the oil of the rest of the nation and about as much gas as likely to be found elsewhere in America. The Greenland report recently pegged East Greenland's likely total hydrocarbon reserves at the equivalent of 31.4 billion barrels of oil.

- Throw in the known reserves of the new Snohvit (snow vit) gas field off Norway and the Shtokman gas field in Russia, and throw in the potential reserves in the dozens of other basins of the High Arctic -- never before fully assessed because of the problems of exploration and production in pack ice conditions -- and the North may well be the globe's best remaining source for hydrocarbons outside of the Middle East. The popular press' estimate that the Arctic holds a quarter of the globe's remaining hydrocarbons may well be proven not only to be correct, but also to be conservative.

- And as we all know the Arctic contains other types of energy as well. While Alaska contains 6.1 billion short tons of demonstrated coal, it likely contains 6 trillion short tons of actual reserves, most located far above the Arctic Circle in Northwestern Alaska. That means the Arctic in Alaska alone may nearly match the known coal reserves of the rest of the world.

- The north also sports plentiful supplies of geothermal energy. I'm sure President Grimsson of Iceland will talk about that nation's progress in harnessing the heat of the earth's core to

generate electricity. I will only say that here in Alaska about half of the state is likely to sport geothermal energy -- potential that can be utilized using either conventional or the new enhanced geothermal systems. Enhanced geothermal means effectively pumping water underground to be heated by hot dry rocks – with the resulting hot water generating electricity.

- One of Alaska's best geothermal prospects can be seen by looking southwest across Cook Inlet from many of your hotel windows, as it lies under the flanks of the Mt. Spurr volcano about 20 miles away.

- Alaska also is proving to be testing ground where great strides are taking place in developing lower-temperature geothermal technology. At Chena Hot Springs, outside of Fairbanks, geothermal technology was perfected that can produce electricity from water that is just 160 degrees Fahrenheit, significantly below boiling. That breakthrough, using a binary organic rankine cycle power plant built by United Technologies Co., was named one of the 100 most technologically significant products created last year by R&D

Magazine. It opens the possibility for economic geothermal power development to a far wider area worldwide.

- This morning I am pleased to announce that the next step in advancing lower temperature geothermal technology is about to be undertaken in Alaska. The U.S. Department of Energy this morning is awarding a follow up grant to Chena Power, a subsidiary of Chena Hot Springs, and its founder Bernie Karl, to modify the technology to produce electricity from the waste water separated during production from oil and gas wells. The $1.45 million project, just over half funded by D-O-E, will use water separated from wells at the Prudhoe Bay oil field – water that comes out of the ground at about 159 degrees Fahrenheit – to produce electricity.

- This is important for the nation since there are literally thousands of wells in dozens of U.S. States that will be able to turn waste water from oil and gas wells into clean renewable electricity to add to the nation's power grid should this demonstration prove economically successful.

- (Optional) I under that

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from DOE is in the audience and I know that Bernie Karl of Chena Hot Springs is also here. If either would like to comment on the importance of the grant please come up and say a few words…

- And to continue with my remarks, besides geothermal energy, the North also is home to some of the highest tides and strongest currents on earth. Tapping the oceans with tidal, current and wave electrical generators also represents a significant source of clean energy for the future – energy that the oceans, bays, rivers and straits of the Far North offer in abundance.

- In the past many of these resources were off limits due to climate, the state of technology, or the high cost of dealing with the logistics of travel and work in the extreme cold and rugged terrain of the Arctic. But as this conference, I suspect, will fully document, there have been amazing breakthroughs in both science and technology that allow energy and resource production to proceed in the Arctic without environmental damage and within the scope of current and certainly likely future economics.

- In Alaska we have pioneered oil well technology that has reduced the size of surface drilling disturbance by 88 percent in just the past 30 years. We can now tap oil and gas reserves more than 8 miles away from a single well pad, preserving the surface habitat for animals and humans, from caribou and polar bears to the Alaskan Eskimo. We, like all of you from Arctic nations, now use ice roads that melt away in spring and summer to access energy sites, from the well pads of Alaska to the diamond mines of Canada, and increasingly the mineral deposits of Russia.

- This conference, where a host of technical papers from researchers, academic and industry representatives will be presented on how energy development can be done better, and at less economic and environmental cost, opens amid the growing debate over the environmental effects of carbon emissions on the global atmosphere. And fossil fuel use of coal and oil, and to a lesser degree of natural gas, is the leading source of that carbon.

- It is paradoxical that the warming that we have experienced in the Far North over the past thirty years, may well be the seminal event that allows the pace of Arctic development to

accelerate. That the warming may unlock the polar ice caps and permit exploration and additional production of even more hydrocarbons may seem like a cruel result.

- But I would like to suggest that it is both proper and beneficial that the nations of the Far North work to discover and unlock both the fossil and the alternative energy wealth of the North, while we also turn our attentions to capturing and storing the carbon emissions that use of any of those hydrocarbons will entail. That is because global poverty, being accelerated by the high-cost and growing scarcity of energy, is an equal threat to the health, peace and well-being of humankind.

- The technologies of the 21st Century that promise to do so much to improve the quality of life for all of us, from modern medical care to improvements in information gathering and dissemination – from cell phones to computers – all require increasingly larger amounts of energy. Unless more energy – energy from all sources – is produced, its scarcity and higher cost will impoverish billions of residents on this planet, fostering war and civil unrest.

- We need to work every day to expand energy production, while we also find new technologies to greatly reduce carbon emissions to slow and ultimately stop any climate change that may be occurring as a result. We need to increase, not curtail, fossil fuel production, so it can provide a bridge to the alternative technologies of the future.

- There are many issues on the agenda of Arctic leaders right now. In America we debate whether to ratify the Law of the Sea Treaty so that we can have more say in development of the Arctic. I, by the way, am a strong supporter of ratification and will work to help win approval of the treaty in the U.S. Senate.

- The biggest issue, however, for all nations may be simply how we handle the pace of change facing the citizens of the Arctic. Alvin Toffler in his 1970 book *Future Shock*, warned against the "shattering stress and disorientation that we induce in individuals by subjecting them to too much change in too short a time." As we listen to the presentations on technology change, let's not forget how they will impact the citizens and resources of the North. What will be the impact, not just on the marine environment if an oil spill occurs from

a vessel attempting to run the fabled Northwest Passage? What will be the impact on the culture and social fabric of life for the Inupiat who have called the Far North home for millennia should ships and commerce become a frequent visitor to their coasts, especially if those ships disturb the whales that is the basis for Native lifestyles.

- I, for one, believe we must continue our efforts to harness science and technology to improve life in the Far North and to lessen the impact of our human presence on the fragile and beautiful land and marine environment. But we must never forget the human impacts that new technology will cause. I'm sure the participants at this conference will be mindful of both the benefits and the costs of the new technology that will be highlighted during the next three days.

- Again, let me welcome you to the state, wish you well at this summit and leave you a slight paraphrase of the words of American country music artist, Johnny Horton, who in 1950 wrote lyrics that almost seem prophetic today.

"Way up North,
"where the rivers are winding,

“ big nuggets they are finding, …
“ they’re goin’ North, North to Alaska,
“ the rush is on.”

The rush is truly on, not necessarily for gold nuggets, but for nuggets of energy to fuel an increasingly energy-starved world. Good luck in your discussions of ways in the future to “mine” the energy of the Far North safely and for the benefit of all.

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